Ownership matrix

1.0 PURPOSE AND SCOPE

This standard establishes requirements for erecting steel structures and ensuring compliance with the requirements of 29 CFR 1926, "Safety and Health Regulations for Construction," Subpart R, "Steel Erection." (5.1.3)

2.0 IMPLEMENTATION

This standard is effective on the date shown in the header.

3.0 STANDARDS

3.1 General

These general standards apply to CH2M HILL Hanford Group (CH2M HILL) and its subcontractors when engaged in work involving the construction of steel structures on the Hanford Site. Those activities shall be conducted within the confines of the following standards and related procedures.

1. Protection of others, whether public or other workers, shall be safeguarded at all times. See that "Men Working Overhead" or other safety signs are posted, where necessary, to keep people out of danger areas. Establish barricades, where required.

2. During windy conditions, contact the project industrial safety person or the on-call Safety manager for specific recommended actions based on locations, work performed, and expected job duration in the field. The project industrial safety person or the on-call Safety manager must be called to evaluate the relative risk of all work performed when gusts reach 25 miles per hour.

3. Employees who may indicate a fear of heights or are subject to dizziness shall be kept on ground work.

4. Employees are not permitted to ride loads or crane headache ball.

5. When engaged in work at a fixed position, employees are required to wear a safety harness and the lifeline must be tied to an object engineered to 5,000 pounds.

6. Employees working more than six feet above any adjacent working surfaces, placing and tying reinforcing steel in walls, piers, columns, etc., shall be provided with a safety harness, positioning systems, or equivalent devices, in accordance with 29 CFR 1926, Subpart M. (5.1.2)

7. All ironworkers, including connectors performing initial connection, working at heights fifteen feet or greater, shall be provided with positive fall protection 100% of the time.

8. Projecting or protruding reinforcing rods which create tripping or falling hazards shall be bent or covered as outlined in 29 CFR 1926, Subpart R. (5.1.3)

9. Excess material should not be hoisted to a structure and stored in the working area until it is ready to be put into position and fastened.

10. Before cutting any large or heavy structural steel member, the member shall be secured or supported by ropes, cables, or other means to prevent dropping or uncontrolled swinging.

11. Keep working area in orderly condition with necessary equipment and materials safely arranged.

12. In setting steel, each piece shall be securely bolted before the load line is unhooked. The use of one-bolt connections is not appropriate.

13. When setting steel trusses, they shall be securely tied or cross-braced until permanent braces are in place.

14. Check loads to make sure there are no sharp edges, which will cut into lifting slings. Use softeners, where applicable.

15. A tag line or lines shall be attached to loads where their use will not create a greater hazard.

16. All unused openings in floors, temporary or permanent, shall be securely planked over or guarded.

17. The practice of moving tandem/multiple loads by crane (Christmas treeing) shall be permitted.

18. The construction manager prepares the work package in accordance with TFC-OPS-MAINT-C-01. A subcontractor employee orientation will be held to discuss contractual, health and safety, and job site requirements to be complied with during performance of concrete or masonry work. The construction manager will verify all permits are complete and employee training requirements are met before the subcontractor begins work. (5.1.1) The construction manager/supervisor/ESHQ representatives oversees steel erection activities to ensure they are performed in accordance with the applicable requirements of 29 CFR 1926, Subpart R (5.1.3), and Safety and Health procedures. All applicable oversight results are forwarded to the project manager for further routing and filing. (5.1.3)

3.2 Flooring

In addition to the preceding general standards, these specific standards apply to CH2M HILL and its subcontractors when engaged in work involving the construction of flooring on the Hanford Site. Those activities shall be conducted within the confines of the following standards and related procedures.

1. A safety railing of ½-inch wire rope or equal shall be installed approximately 42 inches high around the periphery of all temporary-planked or temporary metal-decked floors of tier buildings and other multi-floored structures during structural steel assembly. Bright colored flagging should be tied to the railing at intervals of not more than six feet to increase visibility.

2. Where erection is being done by means of a crane operating on the ground, a tight and substantial floor should be maintained within two stories or 30 feet, whichever is less, below and directly under that portion of each tier of beams on which bolting, riveting, welding, or painting is being done.

3. In the erection of a building having double wood floor construction, the rough flooring shall be completed as the building progresses, including the tier below the one on which floor joists are being installed.

4. Permanent stairways should be installed as soon as working conditions permit. When stairways with stair pans are to be filled with concrete or other material later, the stair pans must be temporarily fitted with wood or other solid material at least to the top edge of each pan until the stair pans are filled with a permanent material.

5. When persons are working below riveting, bolting, welding, or painting operations, a temporary floor or protective covering shall be erected above them to prevent accidents caused by falling objects.

3.3 Steel Assembly

In addition to the preceding general standards, these specific standards apply to CH2M HILL and its subcontractors when engaged in work involving the assembly of steel on the Hanford Site. Those activities shall be conducted within the confines of the following standards and related procedures.

1. Extreme care must be used when storing, handling, and placing steel members. Long steel members or loads shall be controlled by taglines to prevent swinging hazards.

2. Pneumatic hand tools shall be used with extreme caution with special attention to the following:

    a. Power sources shall be secured and hose lines shall be bled off prior to disconnecting tools or hose sections.

    b. Airline hose connections should be wired or tied together to prevent accidental separation.

    c. Appropriate safety goggles or other eye protection shall be provided and used by workers using pneumatic hand tools or performing other work that is hazardous to the eyes.

3. Riveting shall not be done in areas where combustible materials are present unless precautions are taken to prevent fires.

4. Connections of the equipment used in plumbing-up shall be properly secured.

5. Turnbuckles shall be secured to prevent unwinding under stress.

6. Plumbing-up guys and related equipment shall be placed so that employees can get at connection points.

7. During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts, or the equivalent, at each connection and drawn up wrench tight.

8. Containers shall be provided for storing or carrying bolts, nuts, and drift pins and secured against accidental displacement when aloft.

9. When bolts or drift pins are being knocked out, means shall be provided to keep them from falling.

10. Impact wrenches shall be provided with a locking device for retaining the socket.

11. Complete bolt-up/plumb-up shall be kept within 48 feet or four floors; whichever is less, of the uppermost steel framework.

12. Additional hoisting and rigging guidelines and requirements are identified in TFC-ESHQ-S_IS-C-05 and DOE-RL-92-36. (5.1.4).

4.0 DEFINITIONS

No terms or phrases unique to this standard are used.

5.0 SOURCES

5.1 Requirements

1. 29 CFR 1926.755(b), “Column Anchorage.”

2. 29 CFR 1926, Subpart M, “Fall Protection.” (S/RID)

3. 29 CFR 1926, Subpart R, “Steel Erection.” (S/RID)

4. DOE-RL-92-36, “Hanford Site Hoisting and Rigging Manual.” (S/RID)

5.2 References

1. TFC-ESHQ-S_IS-C-05, “Hoisting and Rigging.”

2. TFC-ESHQ-S-STD-01, “Portable Ladders.”

3. TFC-ESHQ-S-STD-05, “Walking/Working Surfaces.”

4. TFC-ESHQ-S-STD-12, “Elevating Work Platforms.”

5. TFC-ESHQ-S-STD-13, “Hand and Portable Power Tools.”

6. TFC-ESHQ-S-STD-18, “Safety Signs, Tags, Barriers, and Color Coding.”

7. TFC-ESHQ-S-STD-26, “Fall Protection.”

8. TFC-OPS-MAINT-C-01, “Tank Farm Contractor Work Control.”